

Remarks

In view of the above amendments and the following remarks, reconsideration of the rejections and further examination are respectfully requested.

Regarding the withdrawal of claims 10, 14 and 15 from consideration, it is noted that claims 14 and 15 have been amended so as to depend from claim 18 and claim 10 has been canceled without prejudice or disclaimer to the subject matter contained therein. As a result, claims 14 and 15 should now be entitled to due consideration.

Claims 1-4, 6-9, 11, 12 and 16-18 have been rejected under 35 U.S.C. §102(b) as being anticipated by Garrison (US 6,425,916). Claims 1, 2, 4, 6-9, 11, 12, 16 and 17 have been rejected under 35 U.S.C. §102(b) as being anticipated by Johnson (US 4,339,831). Claims 1-3, 7-9, 11-13 and 16 have been rejected under 35 U.S.C. §102(e) as being anticipated by Vesely (US 6,530,952).

Claims 1 and 18 have been amended so as to further distinguish the present invention, as recited therein, from the references relied upon in the above-mentioned rejections. Support for the amendments to claim 1 can be found at least in Figure 1 and support for the amendments to claim 18 can be found at least in the original specification at page 8, line 30 – page 9, line 2.

Claim 1 is patentable over Garrison, Johnson and Vesely, since claim 1 recites, in part, integrated centripetal compression means for compressing a resilient carrier frame from a deployed position towards a folded position, wherein the integrated centripetal compression means comprises a clamp having at least two branches connected together at a common region located along central axis of the resilient carrier frame in the deployed position, each branch having a connection segment connected to a flexible shutter and a drive segment for centripetally compressing the resilient carrier frame towards the folded position, and

wherein the common region is located at a distance from the connection segments of the branches, the drive segments are located between the connection segments and the common region, axially apart from the connection segments, and the drive segments are spaced axially away from the flexible shutter. Garrison, Johnson and Vesely fail to disclose or suggest the integrated centripetal compression means as recited in claim 1.

Garrison discloses a cardiac valve 6 including a valve portion 38 supported by a number of posts 32, a support structure 26 made up of first and second elongated members 28 and 30

formed by windings 31 and separated by a temporary valve mechanism 40, and a coil 36 at the opposite end of the valve 6 from the valve portion 38. (See Figures 10 and 30).

The rejection asserts that the struts of the first and second elongated members 28 and 30 correspond to the claimed branches of the clamp and the posts 32 correspond to the claimed drive segments of the branches. However, it is apparent that Garrison fails to disclose or suggest that the portions of the posts 32 that are relied upon in the rejection as corresponding to the common region are located along central axis of the valve portion 38 in the deployed position. Instead, these portions of the posts 32 are located on an outer periphery of the valve portion 38 when the valve portion 38 is in the deployed position. As a result, claim 1 is patentable over Garrison.

Johnson discloses a valve having three struts 10, 12 and 14, an edge 34 and a flexible membrane 30. The first ends of the struts 10, 12 and 14 are all connected at a joiner 16 and the second ends of the struts 10, 12 and 14 are connected to the edge 34 via suture pads 18, 20 and 22, respectively. (See column 4, lines 61-63 and Figure 2).

In the rejection, the struts 10, 12 and 14 are relied upon as corresponding to the claimed branches and the portions of the struts 10, 12 and 14 near the joiner 16 are relied upon as corresponding to the claimed drive segments of the branches. However, it is apparent that the portions of the struts 10, 12 and 14 near the joiner 16 are located directly adjacent to the flexible membrane 30. Therefore, Johnson fails to disclose or suggest that the portions of the struts 10, 12 and 14 near the joiner 16 are spaced axially away from the flexible membrane 30. As a result, claim 1 is patentable over Johnson.

Vesely discloses a collapsible valve 109 having a collapsible frame 110. The collapsible frame 110 includes a number of struts 112 connected together at their distal ends 136 by way of articulation members 114. (See column 10, lines 11-33 and Figures 12 and 14).

In the rejection, the connection of the lengths of the struts 112 is relied upon as corresponding to the claimed drive segments. However, it is clear that Vesely fails to provide any disclosure or suggestion that the lengths of the struts 112 are spaced axially away from a flexible shutter. As a result, claim 1 is patentable over Vesely.

Claim 18 is patentable over Garrison, since claim 18 recites, in part, a prosthetic valve including a resilient carrier frame that is radially deformable in an elastic manner relative and integrated centripetal compression means for compressing the resilient carrier frame, wherein the resilient carrier frame comprises a resilient wire mesh, and the integrated centripetal compression means comprises a constriction strand permanently engaged around the resilient wire mesh, and wherein the resilient wire mesh is a resilient tubular wire mesh, and the constriction strand extends around a circumference of the resilient tubular wire mesh for compressing the resilient carrier frame. Garrison fails to disclose or suggest the integrated centripetal compression means as recited in claim 18.

As noted above, Garrison discloses a cardiac valve 6 including a valve portion 38 supported by a number of posts 32, a support structure 26 made up of first and second elongated members 28 and 30 formed by windings 31 and separated by a temporary valve mechanism 40, and a coil 36 at the opposite end of the valve 6 from the valve portion 38. Further, the valve portion 38 has a base 41 that is secured to the support structure 26 by sutures. (See column 5, lines 42-60 and Figures 10 and 30).

In the rejection, the sutures used for securing the valve portion 38 to the support structure 26 are relied upon as corresponding to the claimed constriction strand. However, it is clear that such sutures are not for compressing anything. Therefore, the sutures do not correspond to the claimed constriction strand. As a result, claim 18 is patentable over Garrison.

Because of the above-mentioned distinctions, it is believed clear that claims 1-4, 6-9 and 11-18 are allowable over the references relied upon in the rejections. Furthermore, it is submitted that the distinctions are such that a person having ordinary skill in the art at the time of invention would not have been motivated to make any combination of the references of record in such a manner as to result in, or otherwise render obvious, the present invention as recited in claims 1-4, 6-9 and 11-18. Therefore, it is submitted that claims 1-4, 6-9 and 11-18 are clearly allowable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. The Examiner is invited to contact the undersigned by telephone if it is felt that there are issues remaining which must be resolved before allowance of the application.

Respectfully submitted,

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